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Sierra Grande Broadcasting
PO Box 51
Des Moines, New Mexico 88418-0051

February 10, 1999

Petition for Rule Making

I request that 47 CFR 73.202(b) be amended as follows:

Des Moines, New Mexico Present -

Proposed 284C2

By locating this proposed station in the Sierra Grande Peak antenna farm, it will be the first commercial FM station serving most of Baca County, Colorado, Union County, New Mexico, and Cimarron County, Oklahoma. The population of the three underserved counties is about 11,500. AM signals do reach into the area.

The station will also cover part of Las Animas County, Colorado, and Colfax County, New Mexico, that already have commercial FM stations. The populations of the two counties are about 14,300 each.

Eastern New Mexico University is already operating K291AD from the Sierra Grande Peak antenna farm. The translator is a very wide area broadcast station. From what I have been able to find out the State of New Mexico owns the Sierra Grande Peak antenna farm.

Because the State of New Mexico owns the transmitter site, and they own a broadcast station on the transmitter site, 73.239 comes into effect as there is no comparable site in the area, and

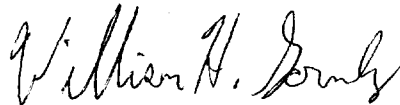
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I would have to build a tower over six-hundred meters tall to get facilities like on top of Sierra Grande.

If this petition to amend 47 CFR 73.202(b) is approved I will be an applicant for the facilities.

If I am the party selected to construct this FM station I will have the main studio located within the principal community contour as required by 73.1125(a). I shall maintain a local telephone number in my city of license as required by 73.1125(c).

To the best of my knowledge all facts in this petition for rule making are correct.

A handwritten signature in cursive script, reading "Willison H. Gormly".

Willison H. Gormly
Owner

Engineering Report

I would like to point out that the equation in 73.208(c)(4) of my copy of the 1997 CFR is incomplete. It states:

$$KPD_{lon}=111.41513 \quad \text{Cos}(ML)-0.00455\text{cos}(3ML)+0.00012\text{cos}(5ML)$$

I tried to fill the space with multiply, divide, plus, and subtract. With toward the equator the number should grow, toward the pole the number should be smaller, and it is larger than the distance per degree for latitude. I looked at the results, and came to the conclusion that the correct operation is plus.

This will just be a starter station for me. At present time only single phase power is available on top of Sierra Grande. The largest single phase transmitter I can find is eight kiloWatt. I would need a high gain antenna. Because of the icing problems I hear about on top of Sierra Grande, I want to see if a forty foot tower will withstand the conditions on top of the extinct volcano, before I build a one-hundred-seventy foot tower to mount a sixteen bay antenna.

Other than for KKFG, the Des Moines, New Mexico 284 allocation could be a Class C allocation. If I ever do go in for an upgrade, I will show where as long as KKFG never exceeds 100 kW @ 460 m HAAT at its present location, I can put an equivalent to 100 kW @ 600 m HAAT on top of Sierra Grande using 73.215.

To the best of my knowledge this engineering report is correct.



Willison H. Gormly
Electrical Engineer

City of License	Call Sign	Channel	Class	Latitude - North				Middle Latitude		kilometers per Degree
				Degrees	Minutes	Seconds	Decimal	Degrees	Radians	
<u>Co-channel</u>										
Des Moines, New Mexico	Proposed	284	C2	36	42	20	36.706	36.7055556	0.64063	110.9694769
Calhan, Colorado	Vacant	284	A	39	1	42	39.028	37.8669444	0.6609	110.9915464
Bosque Farms, New Mexico	KEXT	284	C1	34	46	12	34.77	35.7377778	0.62374	110.951293
Raton, New Mexico	K284AC	284	D	36	40	56	36.682	36.6938889	0.64043	110.9692566
<u>First adjacent channel</u>										
Canon City, Colorado	KSTY	283	A	38	18	54	38.315	37.5102778	0.65468	110.984742
Colorado Springs, Colorado	KYZX-1	283	D	38	44	44	38.746	37.7255556	0.65844	110.9888463
Pueblo, Colorado	KYZX	283	C2	38	33	24	38.557	37.6311111	0.65679	110.9870447
Bloomfield, New Mexico	KKFG	283	C	36	38	33	36.643	36.6740278	0.64008	110.9688814
Tucumcari, New Mexico	K283AC	283	D	35	8	4	35.134	35.92	0.62692	110.9547014
Almont, Colorado	NEW-T	285	D	38	42	47	38.713	37.7093056	0.65815	110.9885362
Canon City, Colorado	K285EE	285	D	38	25	20	38.422	37.5638889	0.65561	110.9857633
Cortez, Colorado	K285AK	285	D	37	22	20	37.372	37.0388889	0.64645	110.9757849
La Plata County, Colorado	K285BW	285	D	37	22	0	37.367	37.0361111	0.6464	110.9757322
Telluride, Colorado	KRYD	285	C1	37	59	57	37.999	37.3523611	0.65192	110.9817367
Abiquiu, New Mexico	K285AD	285	D	36	10	52	36.181	36.4433333	0.63606	110.9645304
Aztec, New Mexico	K285AH	285	D	36	48	7	36.802	36.75375	0.64147	110.9703876
Roy, New Mexico	K285EN	285	D	35	53	48	35.897	36.3011111	0.63357	110.9618535
Tulia, Texas	KJMX	285	C3	34	31	34	34.526	35.6158333	0.62161	110.9490161
<u>Second adjacent channel</u>										
Borger, Texas	KQFX	282	C1	35	25	34	35.426	36.0658333	0.62947	110.9574345
Liberia, Kansas	KZQD	286	C2	37	2	53	37.048	36.8768056	0.64362	110.9727149
Santa Fe, New Mexico	KRZN	286	C	35	47	15	35.788	36.2465278	0.63262	110.9608272
<u>Third adjacent channel</u>										
Buena Vista, Colorado	KBVC	281	C3	38	44	45	38.746	37.7256944	0.65844	110.9888489
Mancos, Colorado	K281AC	281	D	37	21	54	37.365	37.0352778	0.64639	110.9757164
Santa Fe, New Mexico	KLSK	281	C	35	46	50	35.781	36.2430556	0.63256	110.960762
Clovis, New Mexico	NEW-T	287	D	34	26	21	34.439	35.5723611	0.62085	110.9482053
Farmington, New Mexico	K287AC	287	D	36	40	16	36.671	36.6883333	0.64033	110.9691516
Memphis, Texas	KLSR-F	287	C1	34	51	52	34.864	35.785	0.62457	110.9521755
<u>Image frequency</u>										
Raton, New Mexico	KRTN-F	229	C2	36	40	59	36.683	36.6943056	0.64044	110.9692644

Call Sign	North - South Distance (Kilometers)	Longitude - West				Middle Longitude	ilometers per Degree	East - West Distance (Kilometers)
		Degrees	Minutes	Seconds	Decimal			
Proposed	0	103	52	6	103.868	103.8683333	112.2492468	0
Vacant	257.8086975	104	15	44	104.262	104.0652778	112.2423042	22.10549824
KEXT	214.7523915	106	51	42	106.862	105.365	112.2546888	168.007851
K284AC	2.589282653	104	24	52	104.414	104.1413889	112.2493142	30.65029885
KSTY	178.6237764	105	12	40	105.211	104.5397222	112.2444849	75.35969999
KYZX-1	226.4172464	104	51	42	104.862	104.365	112.2431739	55.74744302
KYZX	205.4493516	104	35	56	104.599	104.2336111	112.243751	41.00014792
KKFG	6.997204469	107	46	54	107.782	105.825	112.2494289	219.6347159
K283AC	174.3221642	103	41	53	103.698	103.7831944	112.2536875	9.557154231
NEW-T	222.8094864	106	48	33	106.809	105.33875	112.2432734	165.0443799
K285EE	190.5255603	105	9	5	105.151	104.5098611	112.2441599	72.00774646
K285AK	73.98385658	108	8	0	108.133	106.0008333	112.2473007	239.3673687
K285BW	73.36728963	107	47	2	107.784	105.8261111	112.2473171	219.755303
KRYD	143.5672077	107	57	42	107.962	105.915	112.2454366	229.7289935
K285AD	58.1947315	106	20	28	106.341	105.1047222	112.2507517	138.7855822
K285AH	10.69631236	107	53	35	107.893	105.8806944	112.2489677	225.8854574
K285EN	89.75581037	104	11	9	104.186	104.0270833	112.2515584	17.8199349
KJMX	241.8072168	101	46	56	101.782	102.8252778	112.2553529	117.0885695
KQFX	141.9638731	101	36	47	101.613	102.7406944	112.2528784	126.5807111
KZQD	38.00815485	100	54	34	100.909	102.3888889	112.2482516	166.0650522
KRZN	101.8682039	106	31	35	106.526	105.1973611	112.2518663	149.1858484
KBVC	226.4480821	106	11	55	106.199	105.0334722	112.243173	130.7788859
K281AC	73.18231966	108	8	46	108.146	106.0072222	112.247322	240.0845498
KLSK	102.6387048	106	31	35	106.526	105.1973611	112.2518858	149.1858744
NEW-T	251.4517797	103	12	40	103.211	103.5397222	112.2555885	36.88843366
K287AC	3.822270778	108	13	54	108.232	106.05	112.2493463	244.8906572
KLSR-FM	204.2752832	100	36	55	100.615	102.2418056	112.2544304	182.5849492
KRTN-FM	2.496808449	104	24	50	104.414	104.1411111	112.2493118	30.61911783

Call Sign	Distance (Kilometers)	Seperation Required (Kilometers)	Remarks
Proposed	0	Proposed station.	
Vacant	259	166	
KEXT	273	224	
K284AC	31	Translator, remove.	Area is covered by K291AD.
KSTY	194	106	KSTY and KKFG seperated by 226 km.
KYZX-1	233	Booster station.	
KYZX	210	Moving to 280C2	
KKFG	220	188	The only present station that can affect the upgrade of this allocation.
K283AC	175	Translator.	
NEW-T	277	Translator.	
K285EE	204	Translator.	KSTY second adjacent channel.
K285AK	251	Translator.	
K285BW	232	Translator.	
KRYD	271	158	
K285AD	150	Translator.	
K285AH	226	Translator.	
K285EN	92	Translator.	Would need to be removed if this allocation ever becomes a Class C operation.
KJMX	269	117	
KQFX	190	79	
KZQD	170	58	
KRZN	181	105	KRZN and KKFG seperated by 119 km.
KBVC	261	56	
K281AC	251	Translator.	
KLSK	181	105	KLSK and KKFG seperated by 119 km.
NEW-T	254	Translator.	
K287AC	245	Translator.	
KLSR-F	274	79	
KRTN-F	31	0	Station blocks any image frequency station.